
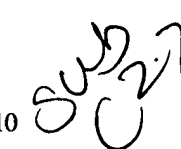



I claim:

1. A method of chemical compound storage, comprising:


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- (a) providing a longitudinally extending carrier tape having thermally formed therein a plurality of chemical receiving wells; and
 - (b) adding to each of said chemical receiving wells a chemical compound.

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2. A method of chemical compound storage, as defined in Claim 1, further comprising: placing a liquid tight sealing material over said chemical receiving wells to retain said chemical compounds therein and to minimize evaporation

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3. A method of chemical compound storage, as defined in Claim 2, further comprising: forming said carrier tape into a compact roll for storage.

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4. A method of chemical compound storage, as defined in Claim 1, further comprising: providing said carrier tape of a thermoformable material having a thickness on the order of from about 15 mils to about 20 mils.

5. A method of chemical compound storage, as defined in Claim 1, further comprising: providing said carrier tape formed of polypropylene to provide solvent resistance.

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6. A method of chemical compound storage, as defined in Claim 1, further comprising: providing said carrier tape formed of clear polycarbonate or polystyrene to facilitate optical reading of contents within said chemical receiving wells.

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7. A method of chemical compound storage, as defined in Claim 1, further comprising: providing said chemical receiving wells in repetitive matrixes selected from the group consisting of 8x12 wells with a spacing of 9mm between centers, 16x24 wells with a spacing of 4.5mm between centers, and 32x48 wells with a spacing of 2.25mm between centers.

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8. A method of chemical compound storage, as defined in Claim 7, further comprising: providing each of said repetitive matrixes with a unique identifier.

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9. A method of chemical compound storage, as defined in Claim 2, further comprising: providing said sealing material with a pressure sensitive adhesive to adhere said sealing material to said carrier tape such as to permit removal of said sealing material after adhesion to said carrier tape.

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10. A method of chemical compound storage, as defined in Claim 2, further comprising: providing said sealing material heat sealed to said carrier tape such as to permit removal of said sealing material after being sealed to said

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carrier tape.

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11. A method of chemical compound storage, as defined in Claim 10, further comprising providing said seal material as a two layer material having:
- (a) a lower, seal layer of a low melting point material inert to the contents of said chemical receiving wells; and
 - (b) an upper high melting point layer having a higher tensile strength than said seal layer and being joined to said seal layer, to assist in removing said sealing material from said carrier tape.

12. A method of chemical compound storage, as defined in Claim 11, further comprising: providing said seal layer formed of a material selected from the group consisting of modified low density polyethylene and ethyl vinyl acetate.

13. A method of chemical compound storage, as defined in Claim 11, further comprising: providing said upper layer formed from polyester.

14. A method of chemical compound storage, as defined in Claim 2, further comprising: removing said sealing material from said carrier tape by using a heated roll to warm said sealing material for removal.

15. A method of chemical compound storage, as defined in Claim 2, further comprising: perforating said carrier tape with small holes between said chemical receiving wells to evacuate space between said seal material and

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said carrier tape at time of sealing to assure an intimate leak tight seal is achieved between said seal material and said carrier tape.

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16. A method of chemical compound storage, as defined in Claim 2, further comprising: die cutting said sealing material around a pattern of said chemical receiving wells to allow manual removal of said sealing material from said carrier tape.

17. A method of chemical compound storage, as defined in Claim 3, further comprising: spinning said roll to force contents of said chemical receiving wells to bottoms of said chemical receiving wells by centrifugal force.

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18. A method of chemical compound storage, as defined in Claim 1, further comprising: severing individual patterns of said chemical receiving wells from said carrier tape so that said individual patterns can be used independently.

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19. A method of performing biological assays, comprising:

- (a) providing a longitudinally extending carrier tape having thermally formed therein a plurality of reagent receiving wells;
- (b) adding a reagent to each of said reagent receiving wells;
- (c) permitting each of said reagent receiving wells to incubate at a predetermined temperature for a predetermined time; and

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(d) performing a biological analysis on each of said reagent receiving wells.

20. A method of performing biological assays, as defined in Claim 19, further comprising: placing a liquid tight sealing material over said reagent receiving wells to retain said chemical compounds therein and to minimize evaporation.

21. A device for chemical compound storage, comprising: a longitudinally extending carrier tape having thermally formed therein a plurality of chemical receiving wells.

22. A device for chemical compound storage, as defined in Claim 21, further comprising: a liquid tight sealing material disposed over said chemical receiving wells to retain said chemical compounds therein and to minimize evaporation.

23. A device for chemical compound storage, as defined in Claim 22, wherein:
said carrier tape is formable into a compact roll for storage.

24. A device for performing biological assays, comprising: a carrier tape having thermally formed therein a plurality of reagent receiving wells.

25. A device for performing biological assays, as defined in Claim 24, further

comprising: a liquid tight sealing material disposed over said reagent receiving wells to retain said chemical compounds therein and to minimize evaporation.

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26. A liquid aspirating/dispensing device, comprising:

- (a) a plurality of cylindrical passageways; and
- (b) a single piezoelectric crystal to simultaneously compress said cylindrical passageways to aspirate or dispense liquid by positive displacement within said passageways.

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27. A liquid aspirating/dispensing device, as defined in Claim 26, further comprising:

- (a) a single fast acting solenoid valve connected to first ends of said cylindrical passageways; and
- (b) a plurality of small diameter orifices connected to a second ends of said cylindrical passageways.

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28. A liquid aspirating/dispensing device, as defined in Claim 27, wherein: said fast-acting solenoid valve is connected to a three-way valve to selectively connect one of compressed gas, a vacuum source, and a pressurized liquid container to said solenoid valve.

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29. A liquid aspirating/dispensing device, as defined in Claim 27, wherein: said

small diameter orifice comprises a thin walled tube with a small inner diameter, said thin walled tube being encased in a larger tube for mechanical support.

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